

actually consists of four physiographic provinces, three of which are represented in the A/P drainage area.

The Tidewater province is a low, nearly level plain bounded on the west by the Suffolk Scarp (an old marine terrace) and composed largely of peninsular tracts divided by broad embayments. Elevations do not exceed 25 feet. Much of the area is subject to flooding from storms or tides and is very poorly drained. The Flatlands (or Middle) Coastal Plain and the Inner (or Upper) Coastal Plain are the two provinces found between the Suffolk Scarp and the Fall Zone, the boundary between the older, more resistant rocks of the Piedmont and the younger, weaker Coastal Plain sediments. As one moves from east to west within these two coastal provinces, elevations gradually increase, drainage improves and soil development is increasingly influenced by sediments derived from the Piedmont. The Upper and Middle Coastal Plain were considered as one province in this project.

The eastern Piedmont is geologically diverse but surficially characterized by a gently rolling topography with well incised streams and rivers. In the small area of Virginia Piedmont, the hills tend to be steeper and the topography somewhat more rugged than that found in North Carolina. Maximum elevations of the A/P drainage basin do not exceed 700 feet.

A great diversity of cover types and land use activities occur within the study area. Vegetation types include marsh grasses and forbes, vines, shrubs, and evergreen and deciduous trees. Forest types range from gum-cypress 'muck' swamps of the Tidewater province to late successional oak-hickory stands found on dry ridges in the Piedmont. Soils may be derived from marine, lagoonal, or fluvial processes and can be sandy, peaty, or clayey. Agricultural and silvicultural activities occur throughout the study area. Though there are only a few cities within the A/P drainage basin which could be characterized as major metropolitan areas, numerous smaller cities and towns can be found throughout the region along with a diversity of associated anthropogenic activities. In general, the drainage basin encompasses a wide assortment of land use and land cover categories. Specific counties, 7.5 minute (1:24,000) U.S. Geological Survey quadrangles and 1:100,000 USGS quadrangles which were included in the study area are listed in Appendix I.

Selection of Classification Scheme

In October, 1988, CGIA (then known as the Land Resource Information Service-LRIS) convened an A/P Land Use and Land Cover Scoping meeting. Participants included federal, state, and local resource managers and university researchers. There were representatives from East Carolina University, North Carolina State University, N.C. Division of Coastal Management, N.C. Division of Environmental Management, N.C. Division of Forest Resources, U.S. Fish and Wildlife Service, the city of New Bern, and Dare County Planning. The purpose of the meeting was to discuss and recommend a classification scheme which would be compatible with research and management needs. Representatives from CGC, N.C. State University, were on hand to provide information on known characteristics, capabilities, and limitations of the Landsat Thematic Mapper with respect to the identification of land use and land cover categories.

The group recommended adopting a classification system which would be compatible with the system used by the U.S. Geological Survey (Anderson et al. 1976, Appendix II). This hierarchical land use/land cover classification system was established to be used nationwide with